

WHAT IS CLAIMED IS:

1. A method of treating hemophilia in a mammal, comprising:
providing at least one recombinant adeno-associated virus (rAAV) virion, said
rAAV virion comprising an AAV-6 capsid, and a heterologous nucleic acid encoding
Factor IX operably linked to expression control elements; and
5 administering said rAAV virion to at least one muscle cell of a mammal wherein
said Factor IX is expressed at levels having a therapeutic effect on said mammal,
wherein said therapeutic effect is an increase in blood-clotting efficiency in said
mammal.
- 10 2. The method of claim 1, wherein said Factor IX is human Factor IX.
3. A method of delivering a heterologous nucleic acid to at least one muscle cell
in a mammalian subject, comprising:
(a) providing at least one recombinant adeno-associated virus (rAAV) virion,
said rAAV virion comprising an AAV-6 capsid and a heterologous nucleic
15 acid operably linked to expression control elements; and
(b) administering said rAAV virions to said muscle cell, whereby expression
of said heterologous nucleic acid provides for a therapeutic effect.
4. The method of claim 3, wherein said heterologous nucleic acid is a gene
encoding a protein.
- 20 5. The method of claim 3, wherein said heterologous nucleic acid is an anti-
sense RNA.
6. The method of claim 3, wherein said heterologous nucleic acid is a
ribozyme.
7. The method of claim 4, wherein said protein is a secreted protein.
- 25 8. The method of claim 7, wherein said secreted protein is a blood coagulation
factor.
9. The method of claim 8, wherein said blood coagulation factor is human
factor IX.
10. The method of claim 3, wherein said administering of said rAAV virions is
30 by way of direct injection to said muscle cell of said mammalian subject.
11. The method of claim 10, wherein said muscle cell is a skeletal muscle cell.

12. The method of claim **3**, wherein said administering of said rAAV virions is by way of administration to a vascular conduit of said mammalian subject.
13. The method of claim **13**, wherein said vascular conduit is a vein.
14. The method of claim **13**, wherein said vascular conduit is an artery.
- 5 15. The method of claim **3**, wherein said therapeutic effect is an increase in blood-clotting efficiency in said mammalian subject.